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WALL PART FOR CONTAINERS OR THE LIKE  
[Wandteil fuer Behaeltnisse o. dgl.]

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The invention relates to a wall part for containers, especially packaging and storage containers.

Often containers, especially packaging or the like, are provided with scoring at at least one site on the container wall or packaging wall. By manually applying force to this scoring, the consumer becomes able to open the container or the packaging. In the domain of plastic and cardboard packaging, the scoring is generally a perforation of the packaging material.

In this connection it has proven disadvantageous that these perforations and thus also the packaging or container wall are permeable especially to dirt, dust and liquids. In the past therefore, there was often inside packaging, for example a plastic bag or the like, in which the item to be packaged could then be protected against moisture and the like. Most recently with the advent of waste separation however there has been a transition to making the packaging as simple as possible and therefore abandoning inherently superfluous repackaging and inside packaging. Thus, at present products such as detergents, wallpaper paste, and foods of all types can be found in simple cardboard packaging without internal protective packaging. Penetration of moisture into packaging for detergents and wallpaper paste would make the products unusable. The same applies to foods in which dirt or moisture would lead to their being inedible.

Therefore the object of this invention is to make available a container wall with perforation which does not have the aforementioned disadvantages and by which penetration of liquids or dirt particles can

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\* Numbers in the margin indicate pagination in the foreign text.

be reliably prevented.

As claimed in this invention, this object is achieved by a wall part for containers or the like which has at least one perforation and a sealing agent for prevention of penetration of liquids, particles or the like through the wall part in the region of at least one perforation, the sealing agent overlapping at least one perforation being located on the first side of the wall part. The wall part can on the one hand be a component of the container. On the other hand, it is possible to subsequently apply the wall part as claimed in the invention to a certain extent as a sealing wall on one side on which penetration of dirt, dust, etc. is to be prevented. It is therefore not only outstandingly well suited to application to packaging and containers of the initially named type, but can moreover be used to cover openings of all types. In particular the wall part as claimed in the invention is suited for attachment to gas outlet openings, as occur in the automotive industry in seat belt tightener or airbag modules. In this case, the penetration of liquids or dirt particles is undesirable since the function of belt tighteners and airbags is otherwise adversely affected or even fails completely, and consequences would be fatal. The wall part as claimed in the invention can also be used as a covering of the ejection opening for an airbag.

According to one especially advantageous embodiment of this invention, the wall part is made as a label. In this case it is especially advantageous to make the label self-adhesive. For this reason, it can be furthermore provided that on the side facing away from the first side of the wall part, at least in sections an adhesive layer is attached. This label can be easily applied to any type of

packaging. Moreover, it is thus possible to protect openings of all types against penetration of dirt, moisture, and the like. Existing packaging can thus be easily upgraded with "moisture protection".

According to another embodiment of this invention, the sealing agent is a lacquer layer. A lacquer layer has the advantage that it can be easily attached to the wall part. For this purpose, according to one advantageous version of the invention it is provided that the lacquer layer is printed on. Thus, in the mass production of wall parts the sealing agents can be especially easily applied.

Alternatively or in addition, it is provided that the sealing agent is applied in the form of a label to the wall part. In particular, when the wall part is integrated in existing containers or packaging, by mechanical working upgrading with the sealing layer as claimed in the invention can be achieved. The sealing agent is preferably applied by cementing.

According to another advantageous embodiment of this invention the sealing agent is a film which can be easily broken. Depending on the application, the film is made such that it yields and breaks at a certain pressure. Thus the entire wall part becomes permeable in the region of the perforation. This ensures that the packaging or the like can be opened by applying a corresponding force to the sealing agent and the underlying perforation. When the wall part is to be used to cover the gas outlet openings of belt tightener or airbag modules, the pressure at which the wall part becomes permeable is especially critical, since here the perforations which are located over the openings must begin to tear at a defined pressure at the gas outlet openings so that gas can escape and after triggering of the belt

tightener or airbag the remaining excess pressure can be reduced.

The invention and advantageous embodiments are schematically detailed below using Figures 1 to 5:

Figure 1 shows one embodiment of this invention as a label in a side view;

Figure 2 shows one embodiment of this invention as a label in a perspective view;

Figure 3 shows one embodiment of the invention under the influence of a predetermined pressure in a perspective view;

Figure 4 shows another embodiment of this invention as a wall part of packaging in a perspective view;

Figure 5 shows another embodiment of this invention as a label for protective covering of an airbag compartment.

Figure 1 shows one embodiment of the wall part 1 as claimed in the invention in a side view. In this embodiment the wall part is made as a label. On the bottom of the wall part 1 there is an adhesive layer 2. It can be applied over the entire surface or, if desired, in sections. To produce sectional cement application, either a cement which has been applied over the entire surface can be covered or overprinted with nonadhesive regions. Alternatively, the cement 2 can be selectively applied to the bottom of the wall part 1. The wall part has one or more perforations (not shown). On the top of the wall part 1 a sealing agent 4 is attached to cover the perforation.

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This label form is especially suited to at least temporary coverage of openings of all types to prevent penetration of dirt, dust or liquids. Besides openings of packaging, gas outlet openings of airbag or belt tightener systems can also be covered with the wall part

as claimed in the invention so that in particular leaking beverages or other accumulating dirt and dust cannot travel into the outlet openings and moreover completely disable these systems. With this label form these systems can be comfortably upgraded by anyone.

Figure 2 shows the wall part 1 as claimed in the invention as a label in a perspective view. The wall part 1 has one or more perforations 3. The perforation 3 is made such that it tears at a defined pressure on the wall part in the region of the perforation 3. In particular, when using the wall part 1 for sealing of gas outlet openings of airbag and belt tightener systems, it is important that the wall part becomes permeable at a defined pressure. In the same manner as the perforation 3 itself, the sealing agent 4 which protects the perforation against penetration of dirt and moisture must become permeable when the perforation 3 tears open.

The sealing agent 4 can consist of a layer of lacquer which can be imprinted onto the region of the perforation. Alternatively, it is possible to provide the sealing also in the form of a film which easily breaks and which does repel liquids and solid particles, but tears under mechanical loading. This film can be applied for example to the wall part 1 in the form of a label. This version is especially suited to subsequently providing existing perforated wall parts manually or mechanically with a sealing agent 4 as claimed in the invention.

Figure 3 shows a wall part 1 as claimed in the invention in label form under the action of mechanical loading in a perspective view. If for example a defined pressure (arrow up) is applied to the wall part 1 in the region of the perforation 3, for example by a gas which is flowing out through the gas outlet opening, the wall part when loaded

ultimately tears as far as the perforation (arrows to the left, right). The sealing agent 4 is also separated with the perforation and the wall part is made permeable. Likewise, the wall part 1 can be made permeable by manual action in the region of the perforation.

Another embodiment of this invention is shown in Figure 4. In this connection the wall part 1 as claimed in the invention is part of a container 5, packaging, or the like. The wall of the container 5 has a perforation 3 which is covered with the sealing agent 4. In order to reach the contents of the container, for this purpose for example a pressure is applied to the perforated region using the thumbs, by which the perforation 4 [sic] and thus also the sealing layer 4 are separated. In exactly the same way it is also possible in packaging to provide the wall part 1 as claimed in the invention in label form according to Figure 1 on the wall part 5. For beverage packaging (milk, juice, and the like) pour openings and air holes can also be cemented over with the wall part 1 as claimed in the invention.

A further application of the wall part 1 as claimed in the invention is shown in Figure 5.

In order to ensure the serviceability of airbag systems it is important that no dirt or moisture at all collects in the space in which the airbag is located. On the side on which the airbag is projected in an accident is the cover flap. On its sides, as before dirt and dust as well as liquids can penetrate laterally so that the serviceability of the entire airbag system can thus be affected under certain circumstances. To prevent this, a wall part 1 as claimed in the invention can be attached between the airbag and the cover flap. For this purpose, the wall part in label form is made self-adhesive, it



preferably consisting of a tear-resistant and liquid-resistant material. The form of the wall part 1 corresponds essentially to that of the exit opening of the airbag compartment. To fix the wall part in the airbag compartment, on the wall part 1 on the sides there are projections which are provided with an adhesive cement layer 2 on one side. The projections can be cemented against the side walls of the airbag compartment and can be shaped such that they can be attached to the side walls to fit perfectly. The wall part 1 has a perforation 3 which extends almost over the entire length of the wall part 1. For this purpose, the wall part in turn is provided with a sealing agent (not shown) in the above described form. The material is chosen such that it tears only along the perforation 3 when the airbag is properly triggered and the airbag can emerge through the opening which has been formed in this way.

## Claims

1. Wall part (1) for containers or the like, having at least one perforation (3) and a sealing agent (4) for prevention of penetration of liquids, particles or the like through the wall part (1) in the region of at least one perforation (3), the sealing agent (4) overlapping at least one perforation (3) being located on the first side of the wall part (1).

2. Wall part (1) as claimed in Claim 1, wherein it is made as a label.

3. Wall part (1) as claimed in Claim 2, wherein on the side facing away from the first side of the wall part (1), an adhesive layer (2) is attached at least in sections.

4. Wall part (1) as claimed in one of the preceding claims, wherein the sealing agent (4) is a lacquer layer.

5. Wall part (1) as claimed in one of Claims 1 - 4, wherein the sealing agent (4) is printed on.

6. Wall part (1) as claimed in one of the preceding claims, wherein the sealing agent (4) is applied in the form of a label to the wall part (1).

7. Wall part (1) as claimed in one of the preceding claims, wherein the sealing agent (4) is cemented on.

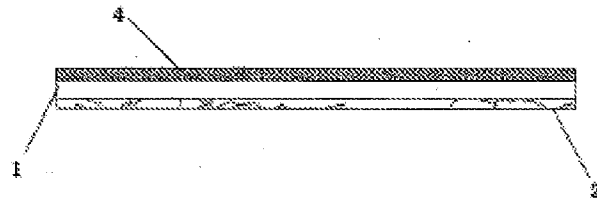
8. Wall part (1) as claimed in one of the preceding claims, wherein the sealing agent (4) is film which can be easily broken.

9. Wall part (1) as claimed in one of the preceding claims, wherein it becomes permeable at a given pressure in the region of at least one perforation (3).

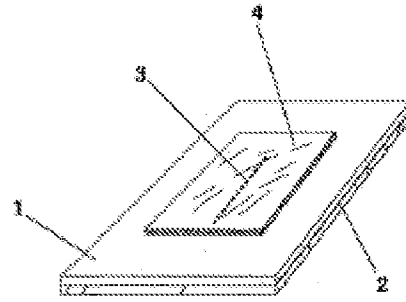
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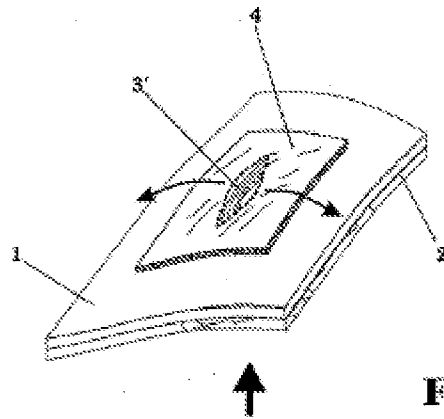
**Fig. 1**

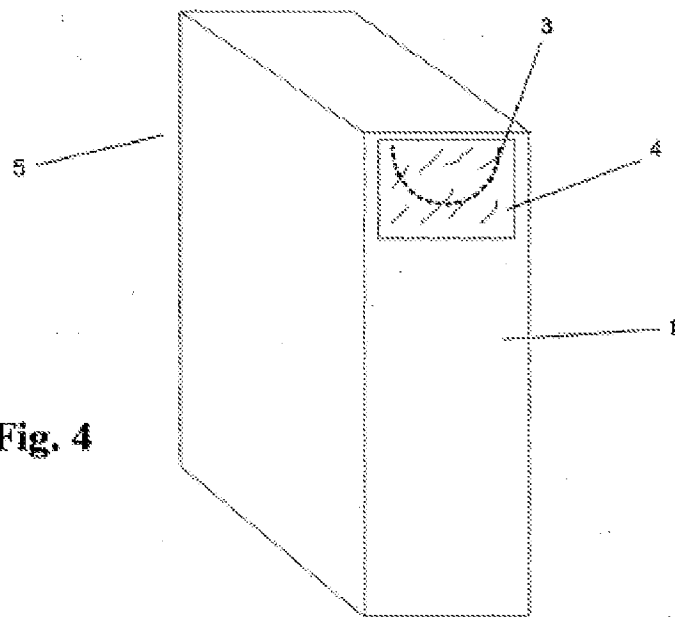


**Fig. 2**

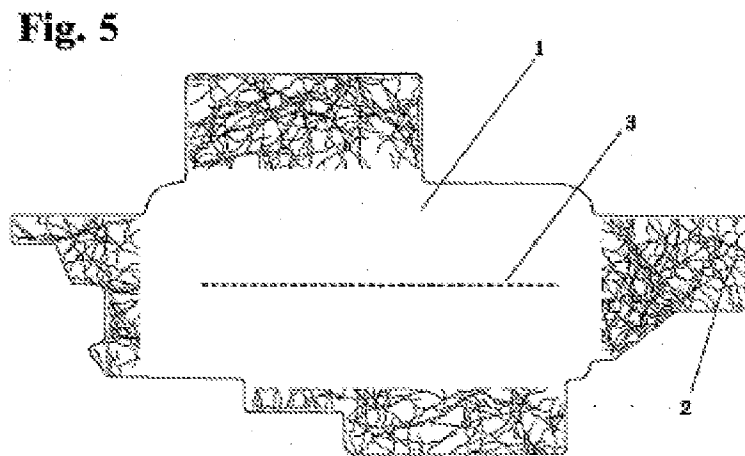


**Fig. 3**





**Fig. 4**



**Fig. 5**